

TOWARD
ZERO
DEATHS
= MARYLAND =



HARFORD COUNTY
STRATEGIC
TRAFFIC
SAFETY PLAN

2018

***A message from the Chairman of the Harford County
Traffic Safety Advisory Board, Sheriff Jeffrey R. Gahler:***



Harford County has traditionally been a rural community and is now faced with many of the challenges of an urban environment. Traffic volume has overwhelmingly increased along with the population. According to Harford County Demographic Data and Growth Trends, prepared by the Harford County Government-Department of Planning and Zoning (revised 2017), the population of Harford County is projected to increase from 250,025 in 2015 to approximately 265,100 by the year 2025. This is a 6% increase in population over ten years, which is an estimated additional 15,075 residents. As our community continues to grow, it is imperative that the infrastructure and quality of life that our County has come to value is maintained or improved to meet our citizens' needs and expectations.

A top priority of the Harford County Sheriff's Office, along with the participating allied agencies of our Strategic Traffic Safety Plan, is to adopt the "Toward Zero Deaths" approach as it is outlined by the Maryland Department of Transportation, Maryland Highway Safety Office and the State Highway Administration. Through collaboration with our partners in many areas of government and public safety, we have developed a plan that will identify our initiatives for projected decreases in serious injuries and fatalities caused by traffic crashes within Harford County.

The emphasis of that strategy includes "The Four E's of Safety" – Enforcement, Engineering, Education, and Emergency Medical Services. Each of these facets will be analyzed and evaluated as it relates to specific emphasis areas, such as aggressive driving, distracted driving, impaired driving, occupant protection, pedestrians and bicyclists, and highway infrastructure. Through data driven analysis, Harford County has developed a strategy to decrease crash fatalities by 50% by 2030 with an ultimate goal of "zero deaths."

As the Chairman of the Traffic Safety Advisory Board, I would like to give special thanks to all of the participating partners. Harford County is a vibrant community that attracts new residents because of our attention to beauty, safety and civic responsibility. It is my hope that as Sheriff and a steward of this County, these cornerstones will be protected and enhanced for all of our citizens.

Sincerely,

A handwritten signature in black ink that reads "Jeffrey R. Gahler".

Jeffrey R. Gahler
Sheriff

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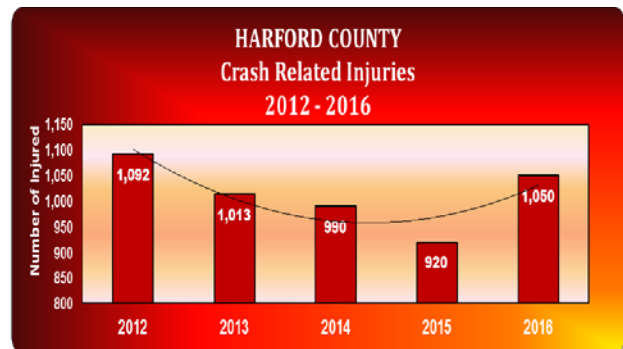
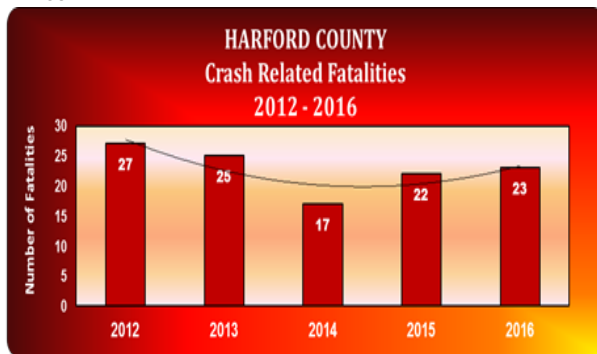
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Executive Summary

Motor vehicle crashes are a major cause of death and disability. ¹Over the past five years, Harford County has averaged 23 deaths and 1,013 injuries on its roadways. Each of these is not just a number, but an actual person. The number you don't see is the countless number of people that are affected by these crashes- family members, friends and co-workers. Also associated with motor vehicle crashes is the economic impact on society. According to the National Highway Traffic Safety Administration, crashes cost taxpayers over ten billion dollars annually nationwide.

FIGURE 1.



In 2012, the Harford County Council recognized the need to improve traffic safety on Harford County roadways, creating a Traffic Safety Task Force (TSTF). This committee was tasked with reviewing and recommending policies and strategies for the implementation of a plan to reduce the number of crashes and to improve the overall safety of the county roadways. The committee consisted of stakeholders from government, education, public safety, and the community. Realizing that Maryland had a Strategic Highway Safety Plan (SHSP), the TSTF partnered with the Maryland Highway Safety Office (MHSO) to create a plan for Harford County. As a result, Harford County became the first county in the state to develop its own SHSP for 2011-2015.

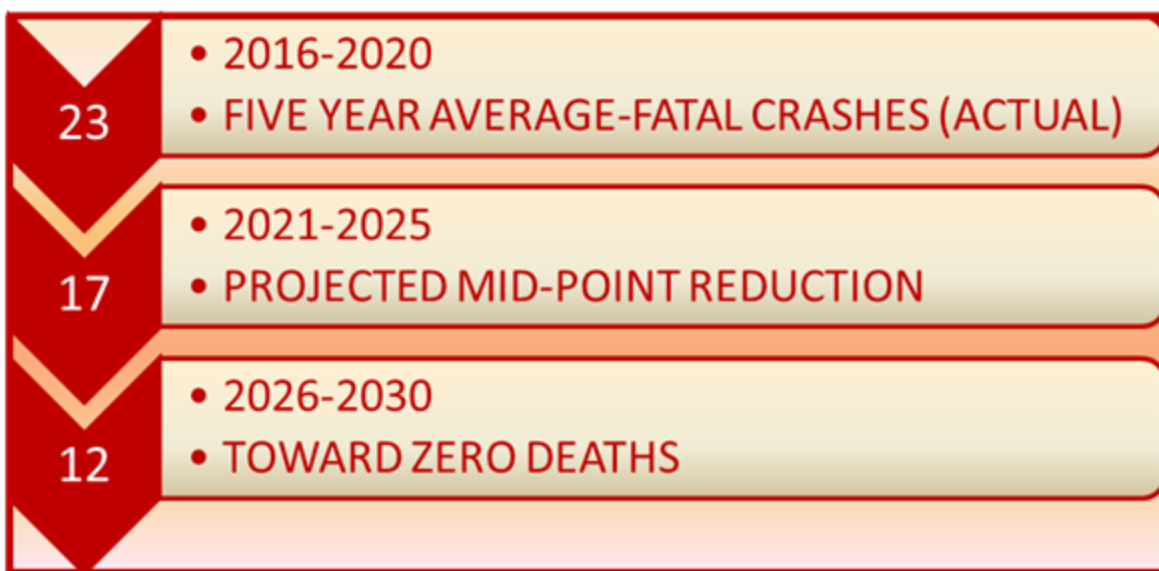
¹ All statistics cited within the Harford County STSP were gathered from the 2012-2016 Safety Office State Highway Administration Safety Information Database (SHA-SID), based on crash reports submitted to, and processed by, the Maryland State Police Central Records Division utilizing the Enhanced Maryland Automated Accident Reporting System (eMAARS) and the Automated Crash Reporting System (ACRS).



In 2013, the Harford County Council realized the importance of the TSTF and the importance of continually improving traffic safety on Harford County roadways by creating an official board, the Harford County Traffic Safety Advisory Board (HCTSAB). The HCTSAB is chaired by the Sheriff of Harford County and, like the TSTF, consists of stakeholders from government, education, public safety and the community. The HCTSAB has become the driving force for traffic safety in Harford County, forming partnerships and working collaboratively to improve overall safety on our roadways. Realizing the need for an updated SHSP, Sheriff Jeffrey R. Gahler tasked the group to develop a new plan. Keeping consistent with the updated Maryland SHSP for 2016-2020, the HCTSAB developed the Harford County Strategic Traffic Safety Plan 2018.

The Harford County STSP follows a data-driven, multidisciplinary approach utilizing the four E's of traffic safety- **E**ducation, **E**nforcement, **E**ngineering, and **E**mergency Medical Services. The plan provides a framework for reducing fatalities, serious injury crashes, and crashes on all Harford County roads. It establishes goals, objectives, and key emphasis areas in keeping with the goals and objectives of the statewide SHSP. The plan also focuses on all road users to include pedestrians, bicyclists, motorcyclists and drivers.

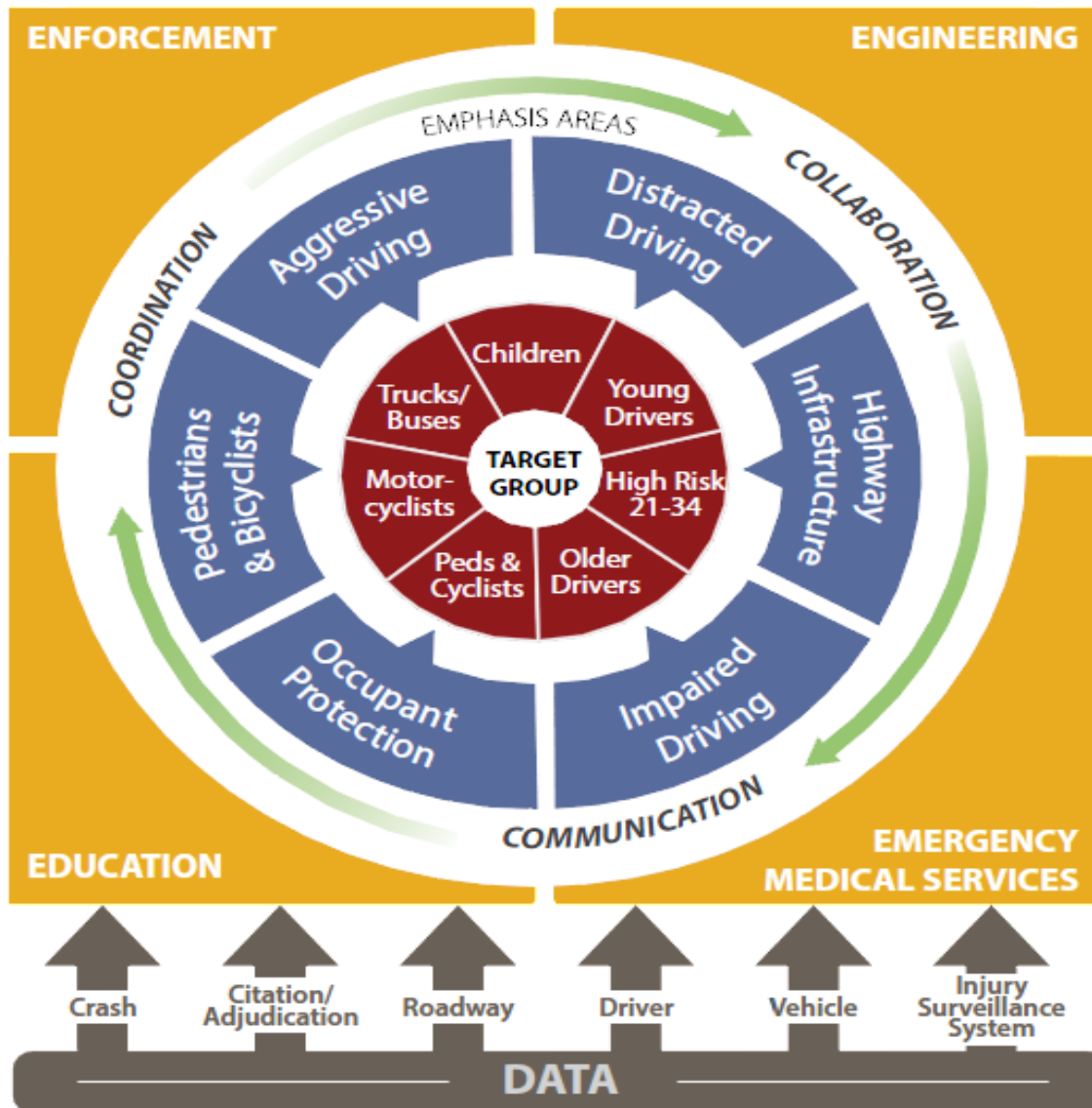
Proudly, Harford County joins the nationally recognized Toward Zero Deaths (TZD) approach. The TZD paradigm, like our STSP, is a data driven effort, projecting a 50% reduction of fatalities and serious injuries occurring on our roadways by 2030. During the five year period between 2012-2016, the state of Maryland had a five year average of 455 fatal crashes. Comparatively, Harford County had an average of 23 fatal crashes during the same time frame, which is approximately 5% of the total state average. Maryland projects a TZD goal of 296 fatal crashes, on average, by the year 2030. Harford County projects a goal of 12 fatal crashes, county-wide, for the same time frame. An interim goal of 17 fatal crashes by 2025 has also been established for Harford County.



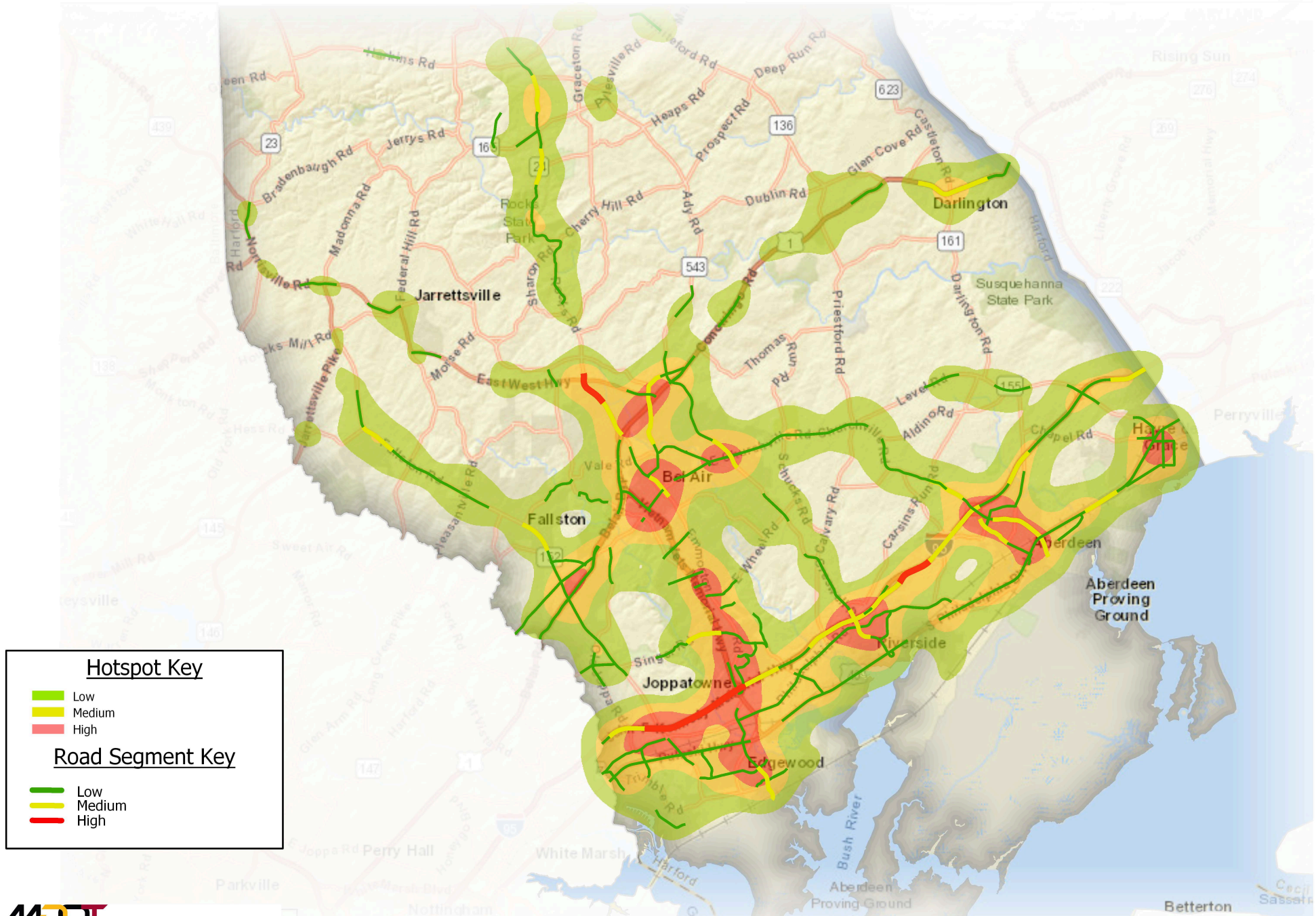
Maryland's SHSP vision and process, depicted below, can also be applied to Harford County's STSP. The foundation for the plan is data. Several different data systems are used throughout the plan's life cycle to develop, implement and evaluate strategies and to evaluate the progress toward the goals. Stakeholder communities are represented on emphasis area teams that form the basis of the STSP strategies. Coordination, Collaboration, and Communication are the driving forces of the emphasis area teams. The emphasis area teams focus their efforts on the target groups identified in the center.



Safer Roads in Maryland



Harford Overall Crash Hotspots and Road Segments 2014 to 2016



Source: State Highway Administration and Washington College GIS Program

STRATEGIC TRAFFIC SAFETY PLAN 2018

The Harford County STSP closely resembles that of the Maryland SHSP. The plans are separated into six emphasis areas:

- ✓ AGGRESSIVE DRIVING
- ✓ DISTRACTED DRIVING
- ✓ IMPAIRED DRIVING
- ✓ OCCUPANT PROTECTION
- ✓ HIGHWAY INFRASTRUCTURE
- ✓ PEDESTRIANS/BICYCLISTS

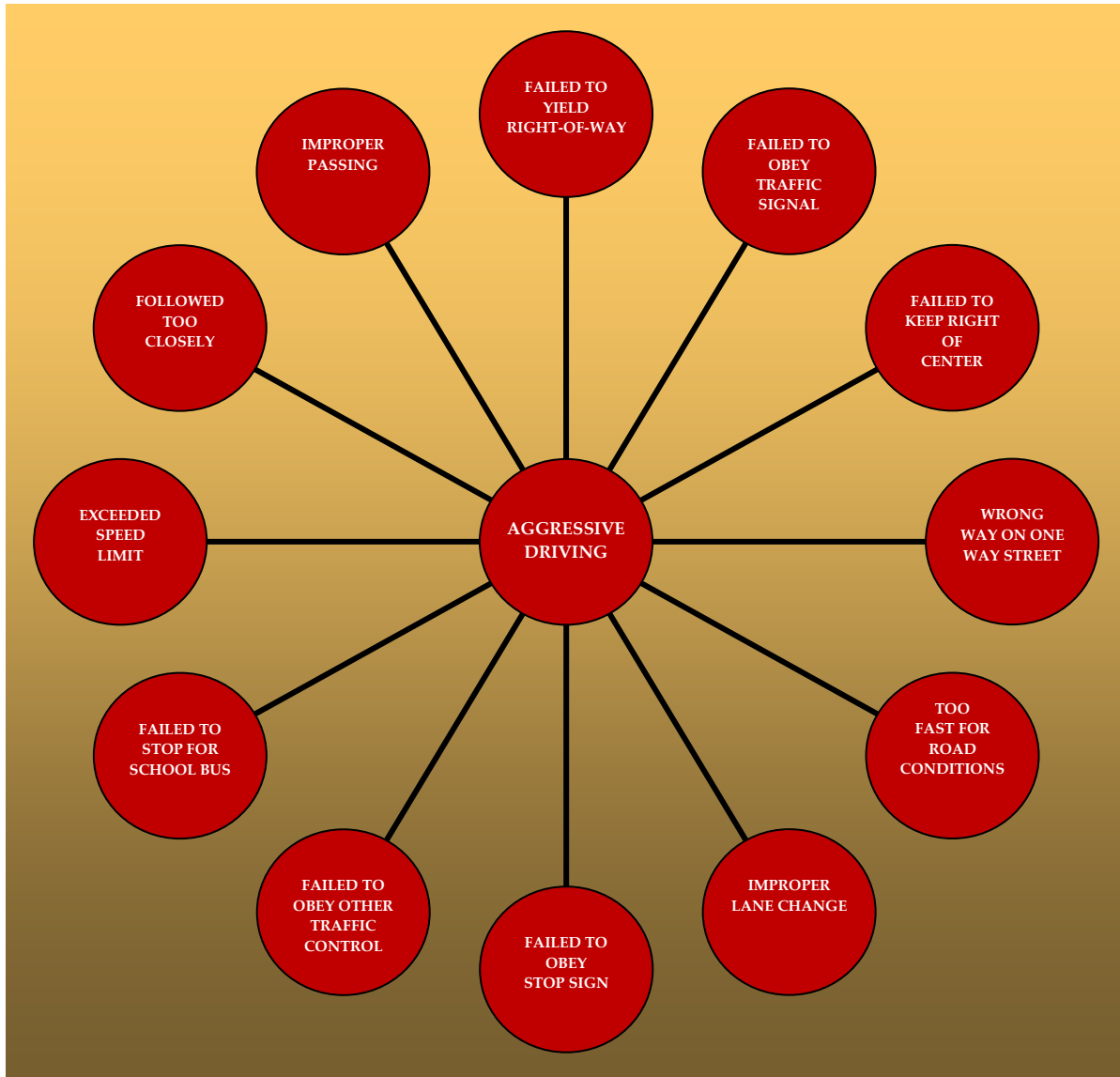


The Maryland Highway Safety Office developed Emphasis Area Teams (EAT) for each emphasis area. These teams are comprised of stakeholders from all over the state, they help to develop the new SHSP, develop strategies and work on action steps to meet the new performance goals. Harford County has representation on several of the emphasis area teams. Working collaboratively allows us to address our STSP goals and objectives while also keeping with the state SHSP goals and objectives. The plan develops interim goals to reduce fatalities by at least 50 percent in the next two decades (2008-2030).



AGGRESSIVE DRIVING

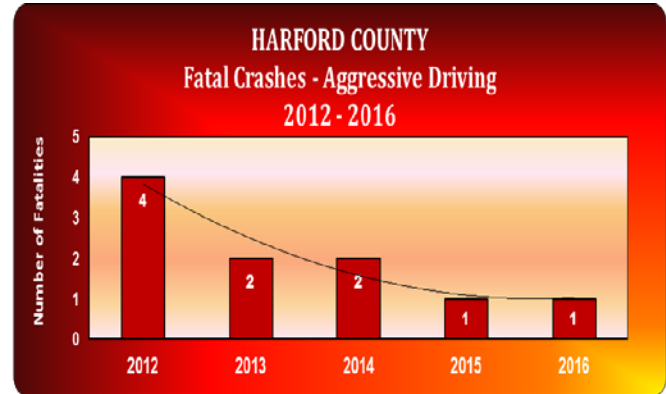
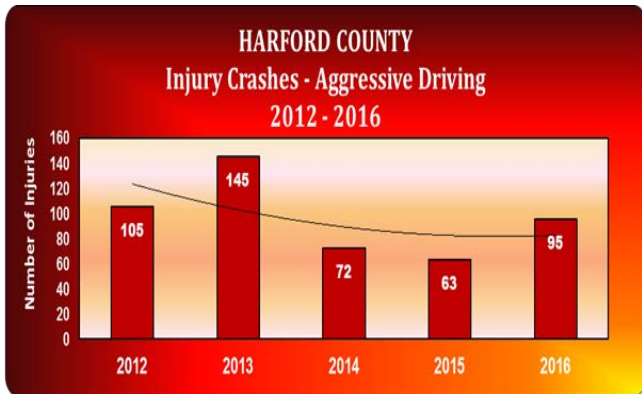
Congestion on roadways, distracted drivers, speeding, and following too close are just a few factors that can lead to aggressive driving behavior. An aggressive driving crash occurs when at least one driver in the crash was reported to be driving aggressively, defined by having one of the following values in the first two Contributing Circumstance fields from the standard crash report form.



Education and awareness play important roles in reducing aggressive driving behavior. Creating a broader understanding of the behaviors that are associated with aggressive driving can lead to reductions in these types of crashes and associated fatalities and injuries. Enforcement also plays a vital role, nearly one-quarter of all moving violation citations issued are for speed violations.



The Aggressive Driving Emphasis Area Team fosters coordination among transportation agencies, safety professionals, and law enforcement to help reduce the number of aggressive driving related fatalities and injuries.



PERFORMANCE OBJECTIVES

Fatality Objective: Reduce the five-year average number of aggressive driving related fatalities on all Harford County roads from two in 2016 to one or fewer by December 31, 2020.

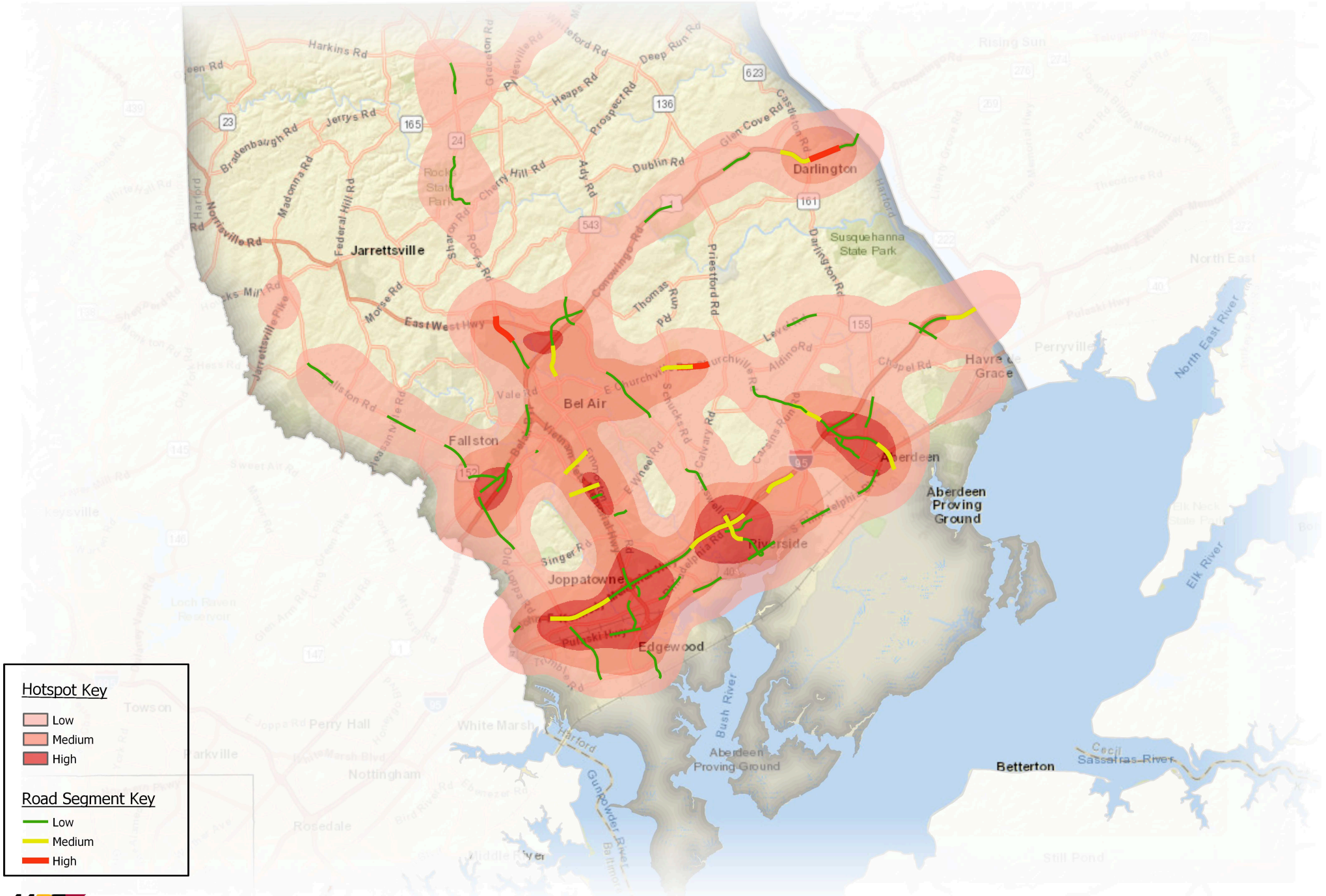
Serious Injury Objective: Reduce the five year average number of aggressive driving related injuries on all Harford County roads from ninety-six in 2016 to seventy-two or fewer by December 31, 2020.

EMPHASIS AREA STRATEGIES

To accomplish the performance objectives, the following strategies will be implemented:

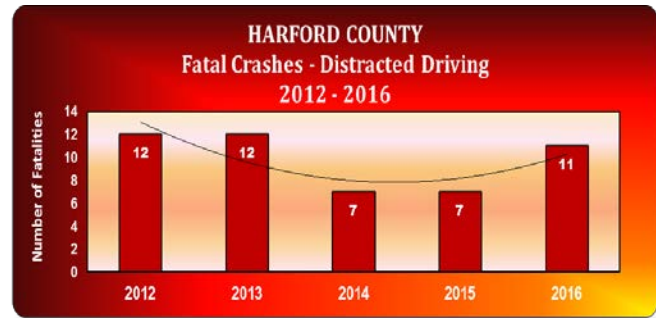
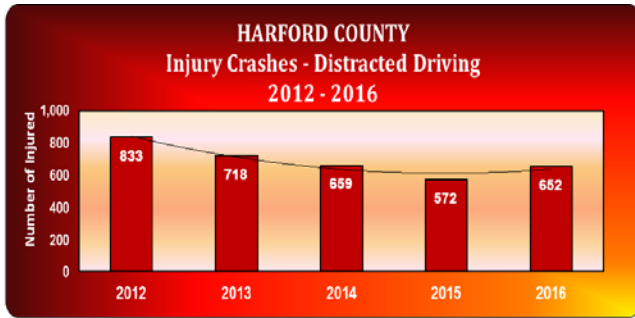
- Use data-driven approaches to identify driver behaviors and target audiences to focus on aggressive and speed related enforcement, education, engineering, and emergency services.
- Develop and implement aggressive driving enforcement practices.
- Identify and implement effective engineering and technological solutions to reduce aggressive driving.
- Conduct public awareness, training, and media programs aimed at reducing aggressive driving.
- Promote and support legislation and adjudication to reduce aggressive driving.

Harford County Aggressive Driving Behaviors Crash Hotspots and Road Segments 2014 to 2016



DISTRACTED DRIVING

In Harford County, an average of 10 people were killed each year and 693 injured in crashes involving a distracted driver. Driver distractions have joined alcohol and speeding as leading factors in fatal and injury crashes. A distracted driving crash occurs when a driver shifts attention away from the driving task due to a number of things, including adjusting a radio, attending to a child, or using a cell phone.



PERFORMANCE OBJECTIVES

Fatality Objective: Reduce the five year average number of distracted driving related fatalities on all Harford County roads from ten in 2016 to eight or fewer by December 31, 2020.

Injury Objective: Reduce the five year average number of distracted driving related injuries on all Harford County roads from six hundred and ninety-three in 2016 to five hundred and twenty or fewer by December 31, 2020.

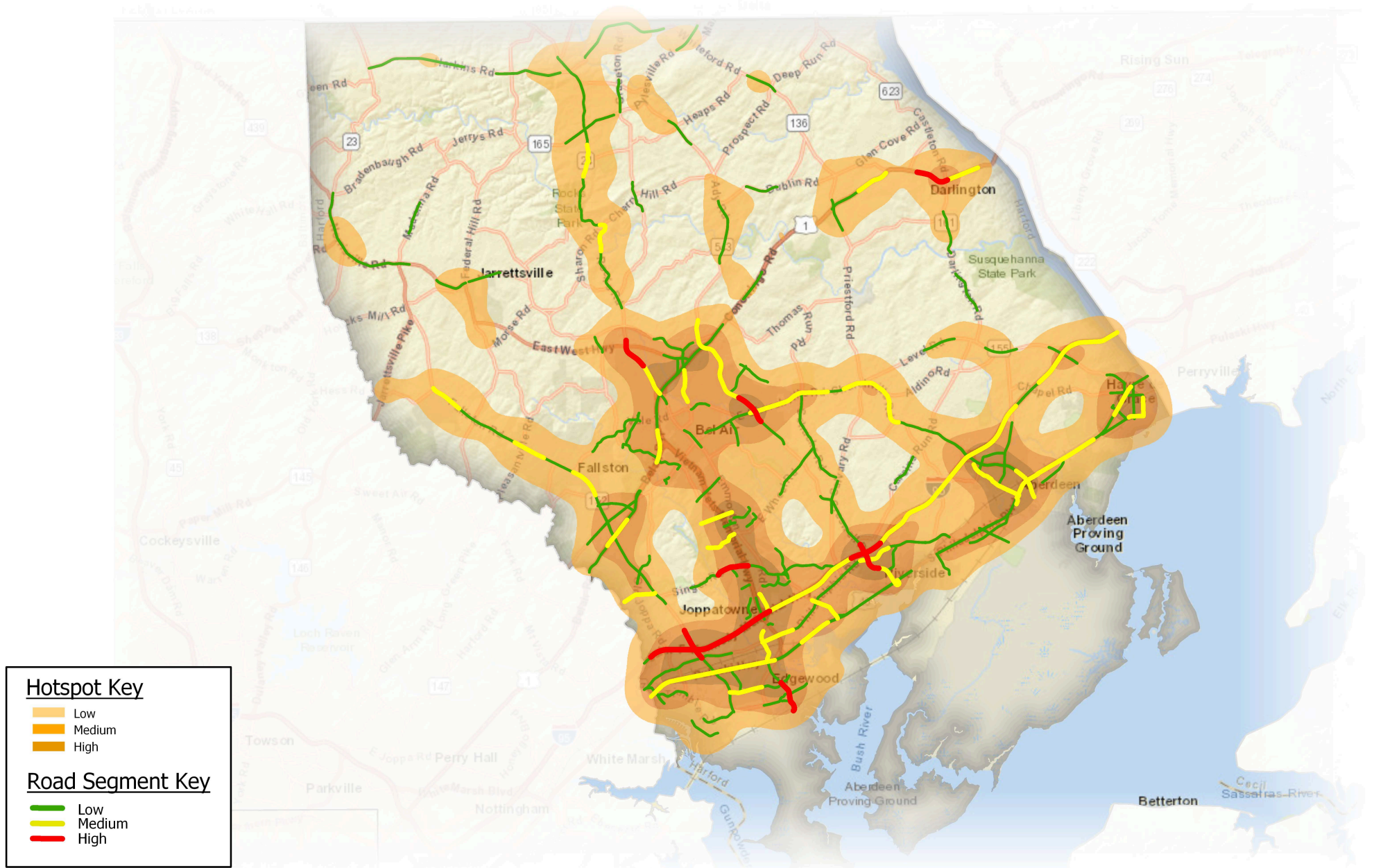
EMPHASIS AREA STRATEGIES

To accomplish the performance objectives, the following strategies will be implemented:

- Evaluate and improve data quality for problem identification and program evaluation purposes.
- Enhance and improve enforcement of distracted driving laws.
- Integrate and foster the use of technologies and engineering applications to address distracted driving infrastructure.
- Conduct outreach initiatives including, but not limited to, education, training, and media programs to reduce distracted driving.
- Evaluate and recommend legislation and/or regulations that address distractive behavior while driving.

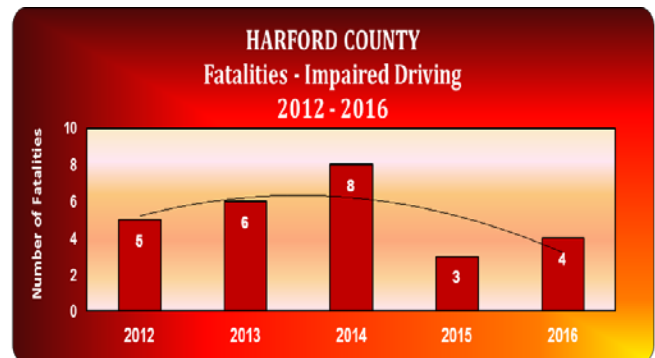
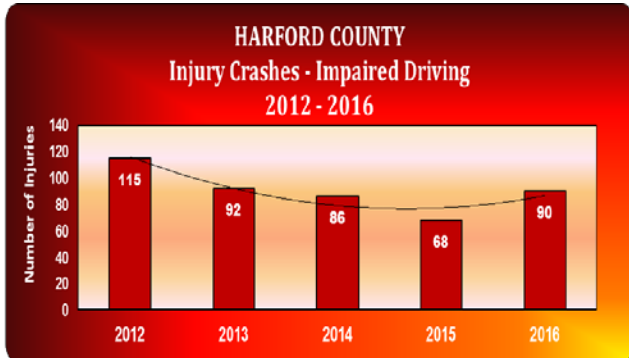


Harford County Distracted Driving Crashes and Hotspots 2013 to 2015



IMPAIRED DRIVING

Due to impaired driving, an average of 5 people were killed and 90 people were injured on Harford County roads between 2012 and 2016. NHTSA's Fatal Analysis Reporting System (FARS) considers a driver to be impaired if they have a blood alcohol concentration (BAC) of .08 grams per deciliter (g/dl) or higher. In Maryland, an impaired driving crash as indicated on the Maryland crash report is determined by the investigating officer based on the driver's condition, BAC, and/or substance use detection. The report will include any level of intoxication and/or drug impairment. Due to these factors, Maryland State impaired driving targets are different than the targets based on FARS data. For the purpose of the Harford County STSP, we will use the data utilizing state factors.



PERFORMANCE OBJECTIVES

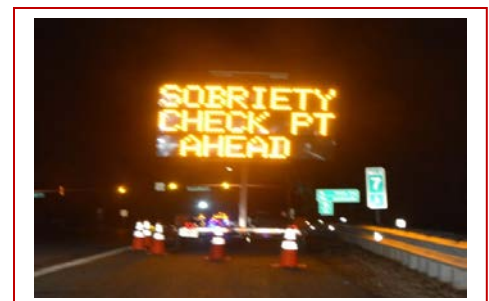
Fatality Objective: Reduce the five year average number of impaired driving related fatalities on all Harford County roads from five in 2016 to three or fewer by December 31, 2020.

Injury Objective: Reduce the five year average number of impaired driving related injuries on all Harford County roads from ninety in 2016 to sixty-seven or fewer by December 31, 2020.

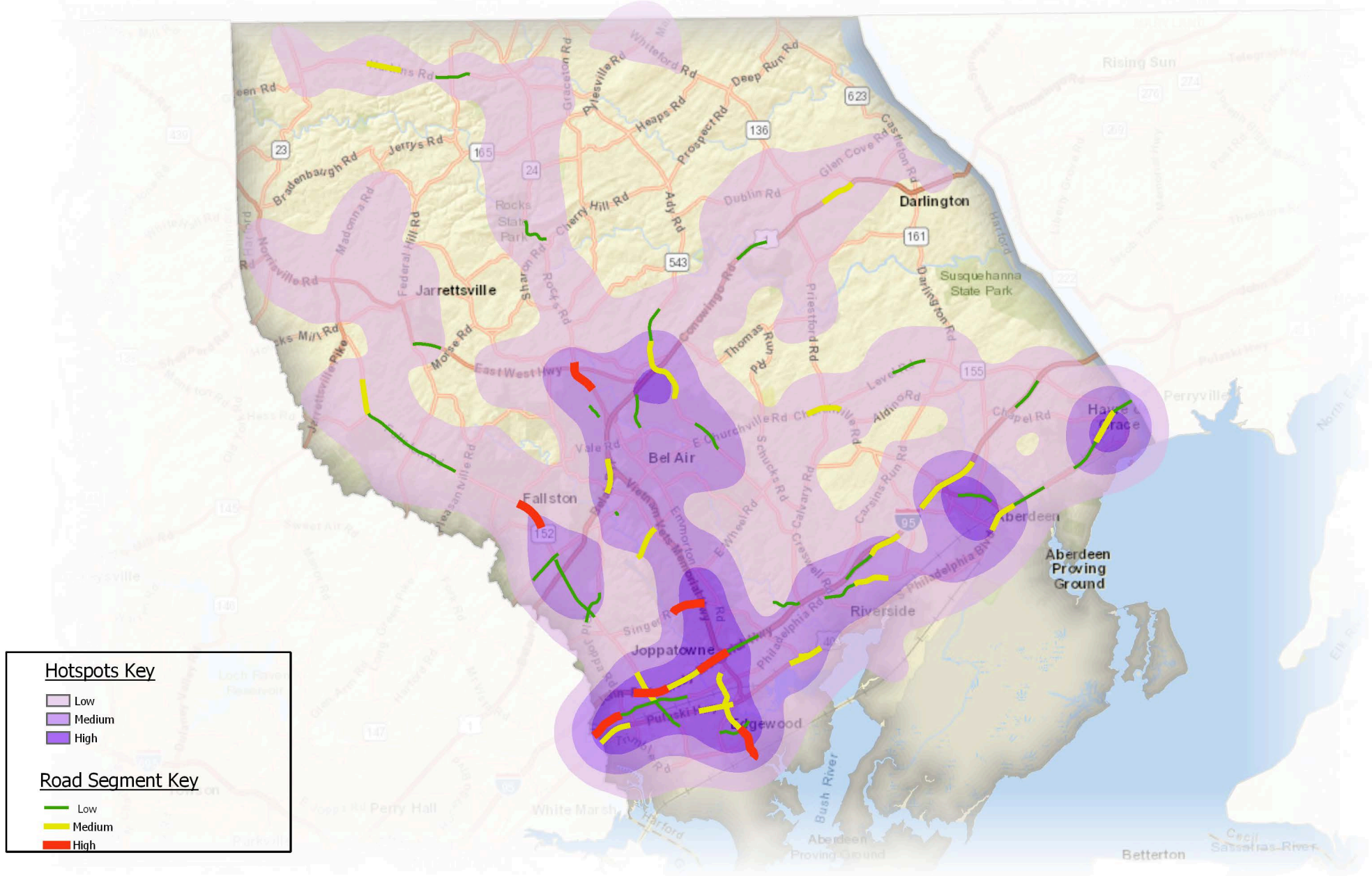
EMPHASIS AREA STRATEGIES

To accomplish the performance objectives, the following strategies will be implemented:

- Improve the availability, quality, collection, and use of data to support impaired driving enforcement, adjudication, programs, and initiatives.
- Enhance and improve enforcement of impaired driving laws.
- Enhance and improve the prosecution and adjudication of impaired driving cases.
- Investigate and foster the use of technologies and best practices to support impaired driving countermeasures.
- Conduct outreach initiatives including, but not limited to, education, training, and media programs to reduce impaired driving.
- Investigate and promote policies and legislation aimed at reducing impaired driving.



Harford County Impaired Driving Crashes and Hotspots 2013 to 2015



OCCUPANT PROTECTION

Although non-use of occupant protection is not a contributing factor to a crash occurring, the severity of injury when involved in a crash is greatly affected by the use or non-use of safety equipment designed for occupant protection. An unrestrained occupant crash is defined as including a passenger vehicle (automobile, station wagon, van, SUV, or pickup truck) occupant:



- Less than 8 years age reported as not using a “Child/Youth Restraint”,
- 8 years of age or older reported as not using a “Lap and Shoulder Belt” or “Air Bag and Belt”, or
- Whose restraint use was reported as using “None” or “Air Bag Only”.

In 2016, Harford County’s seat belt usage rate was recorded at 91.1% compared to the Maryland State rate recorded at 90.8%.

PERFORMANCE OBJECTIVES

Fatality Objective: Reduce the five year average number of unrestrained motor vehicle occupant fatalities on all Harford County roads from sixteen in 2016 to twelve or fewer by December 31, 2020.

Injury Objective: Reduce the five year average number of unrestrained motor vehicle occupant injuries on all Harford County roads from one thousand thirty-eight in 2016 to seven hundred and seventy-eight or fewer by December 31, 2020.

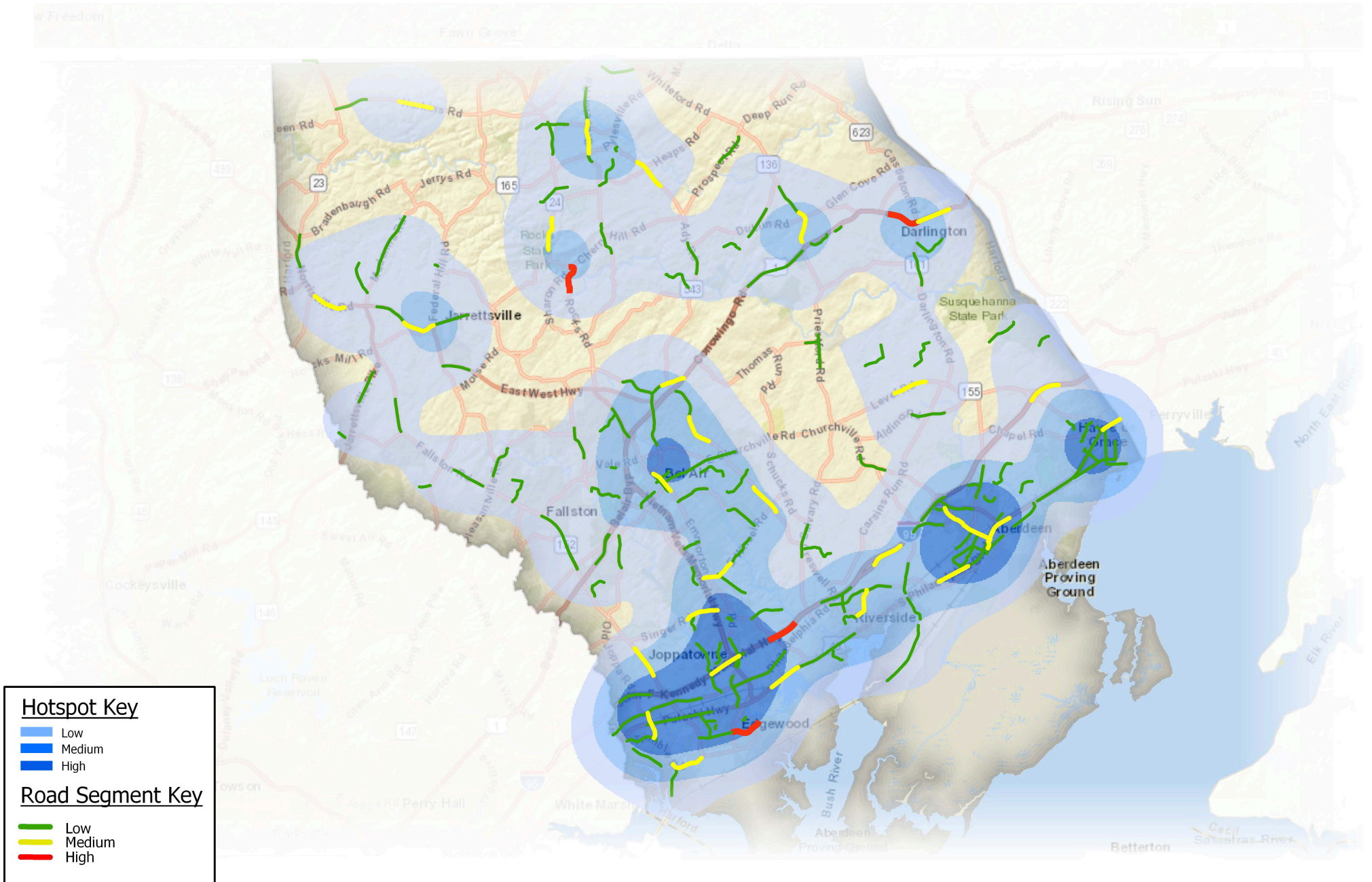
EMPHASIS AREA STRATEGIES

To accomplish the performance objectives, the following strategies will be implemented:

- Improve the timeliness, accuracy, completeness, uniformity, accessibility, and integration of occupant protection related data.
- Enhance and improve enforcement of adult and child occupant protection laws.
- Implement adult and child occupant protection public awareness and education, training, and media programs.
- Evaluate and recommend legislation and/or regulations to advance occupant protection for all ages.



Harford County Seatbelt Crash Hotspots and Road Segments 2013 to 2015



Source: State Highway Administration and Washington College GIS Program

HIGHWAY INFRASTRUCTURE

Intersection related crashes and run-off-the-road crashes may indicate that infrastructure improvements could improve safety at some intersections. Data can be used to effect changes in areas shown to be dangerous. Work zone crashes are also included in this emphasis area. The three crash types are defined as follows:

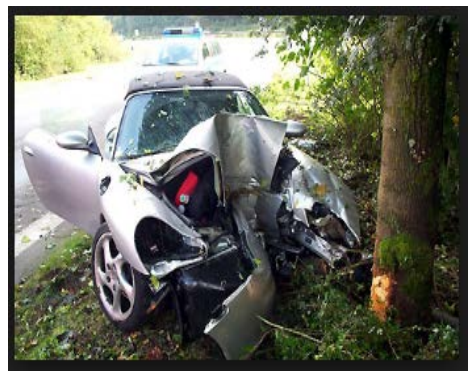
Run-off-the-road Crash- A crash where the first event was recorded as striking a fixed object or running off the road, or the location of the crash was reported as off-road or in the median. Fixed objects listed on the ACRS report are Tree-Shrubbery, Guardrail/Barrier, Light or Other Pole, Curb-Wall, Culvert-Ditch, Embankment, and Other/Unknown (Bridge Overpass, Building, Crash Attenuator, Fence, Sign Post).

Intersection Crash- A crash reported as occurring in an intersection or being intersection related. Intersection related most often describes being struck while turning or in the rear.

Work Zone Crash- A crash reported as occurring in a work zone in the standard crash report. They can include construction, maintenance, and utility work zones.

PERFORMANCE OBJECTIVES

Fatality and Injury Objective: Reduce the five year average number of infrastructure related fatalities on all Harford County roads by December 31, 2020. (Statistics unavailable at this time.)

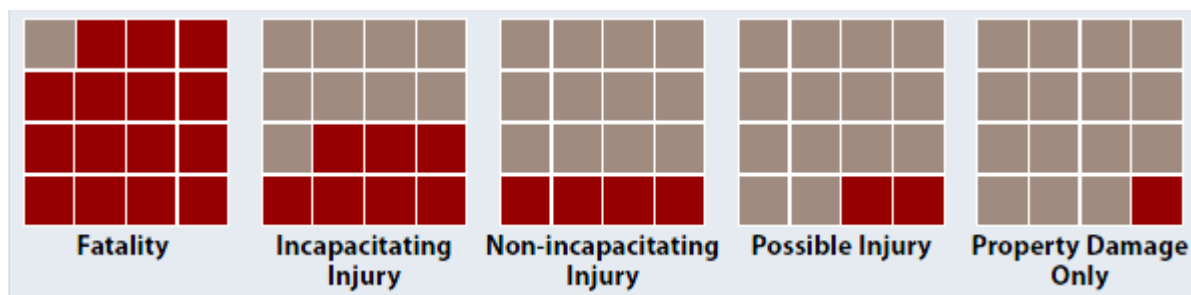


EMPHASIS AREA STRATEGIES

To accomplish the performance objectives, the following strategies will be implemented:

- Identify intersections where the Crash Severity Index is high and implement safety improvements if existing conditions are a contribution factor to the Crash Severity Index.
- Identify and target safety improvements along corridors where the Crash Severity Index is high and address roadway elements that contribute to crashes.
- Develop and implement system-wide improvements to reduce the number and severity of infrastructure related crashes (intersection related, run-off-the-road, work zone related, etc.).
- Identify, develop, and implement system wide improvements that address the safety of vulnerable user groups (bicyclists, pedestrians, motorcyclists, older and younger drivers, etc.).
- Identify and implement recommended safety initiatives for commercial motor carriers.

The Crash Severity Index referenced in strategies 1 and 2 is based on information from crash reports. The Crash Severity Index is a weighted crash frequency adjustment to account for crash severity. This is a tool used by Traffic Engineers to prioritize improvement locations.



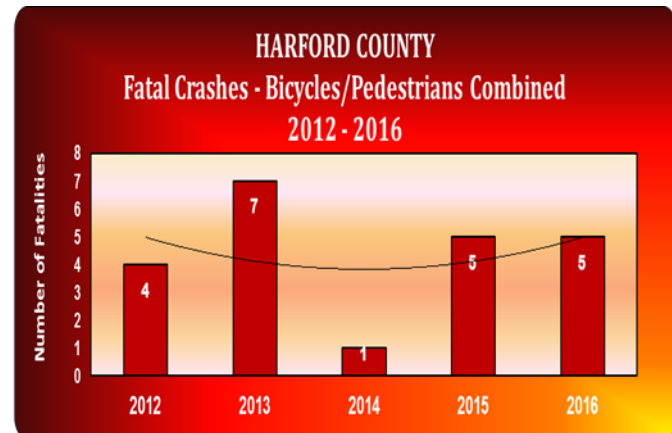
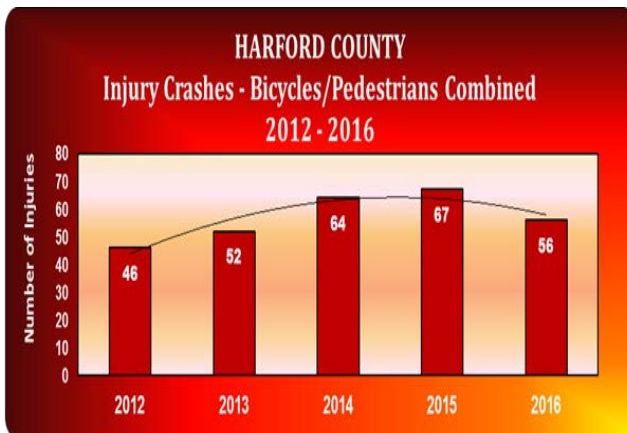
PEDESTRIANS AND BICYCLISTS

On average 4 pedestrians are killed and 40 are injured on Harford County roadways. Bicyclists are not immune from traffic crashes, on average 17 are injured on our roadways. There is been a notable increase of non-motorized road use, these users are our most vulnerable. The two types of crashes are defined as follows:



Pedestrian Crash- A crash involving a person reported as a pedestrian on foot (using the 'pedestrian' person type and 'pedestrian on foot' pedestrian type), including a motorist who has exited a vehicle.

Bicyclist Crash- A crash involving a person reported as a bicyclist or pedalcyclist (using the 'bicyclist' or 'other pedalcyclist' type).



PERFORMANCE OBJECTIVES

The Maryland SHSP divides the two groups into two separate objective categories. For the purpose of the Harford County STSP, we will combine the two.

Fatality Objective: Reduce the five year average number of pedestrian/bicyclist fatalities on all Harford County roads from four in 2016 to three or fewer by December 31, 2020.

Injury Objective: Reduce the five year average number of pedestrian/bicyclist injuries on all Harford County roads from fifty-seven in 2016 to forty-two or fewer by December 31, 2020.

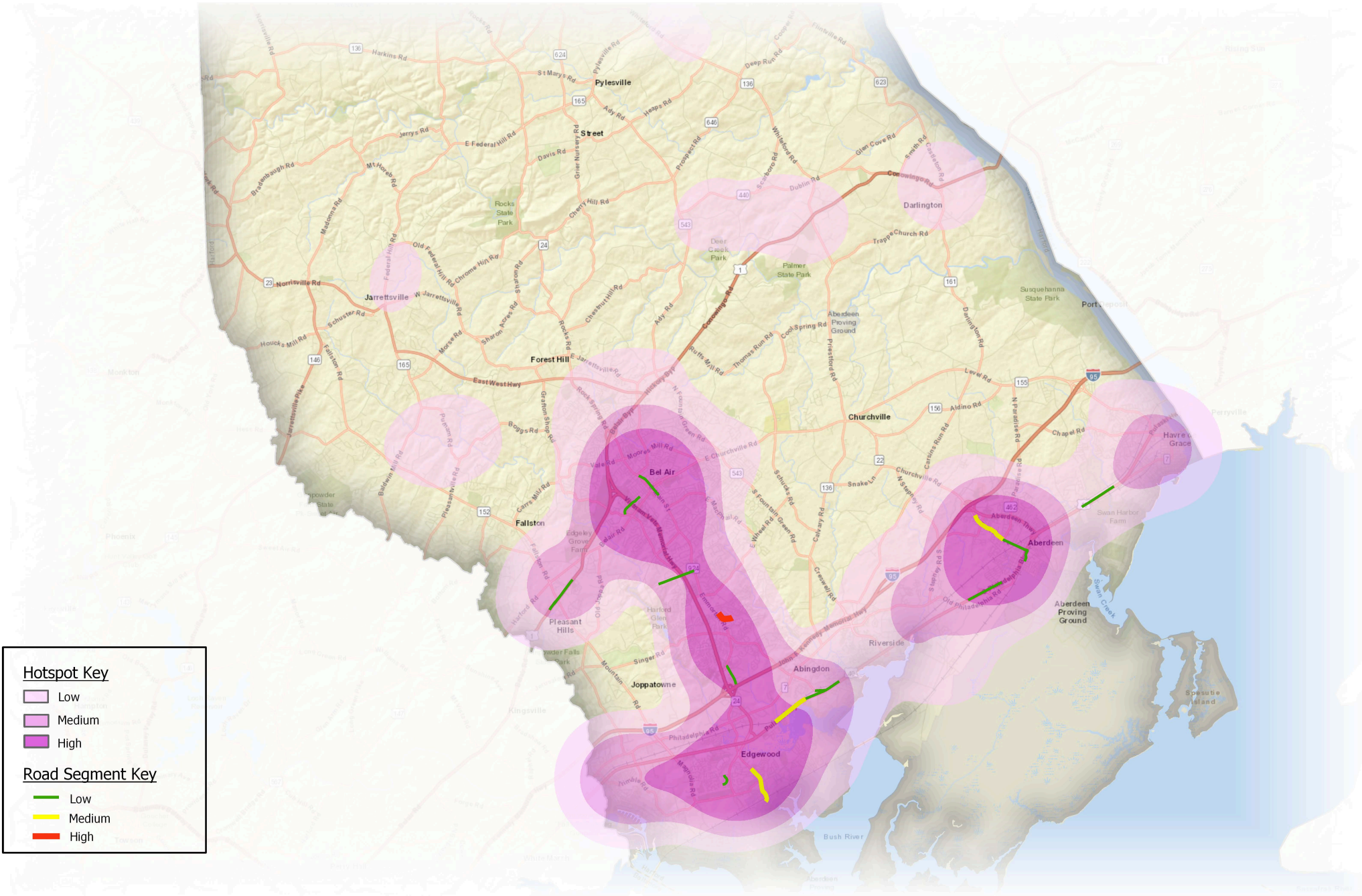
EMPHASIS AREA STRATEGIES

To accomplish the performance objectives, the following strategies will be implemented:

- Identify and target pedestrian and bicycle safety issues, populations, and locations of concern through the collection, analysis, and evaluation of data and information.
- Promote safe behaviors of all road users appropriate for the environment through education and enforcement initiatives.
- Create and improve roadway environments for safe walking and bicycling through implementation of engineering treatments, land use planning, and system wide countermeasures.
- Create and improve pedestrian and bicycle safety culture in Harford County including the promotion and implementation of legislation and training of professionals and stakeholders about best safety practices.
- Develop, apply, and promote technological approaches, including those in vehicles and emergency response equipment, in order to better prevent and reduce the severity of collisions involving pedestrians and bicyclists.
- Identify and promote safe driving and pedestrian behaviors for all motorists and public safety professionals at the scene of emergency events.
- Increase enforcement of existing traffic laws for cyclists and pedestrians.



Harford County Pedestrian Crash Hotspots and Road Segments 2014 to 2016



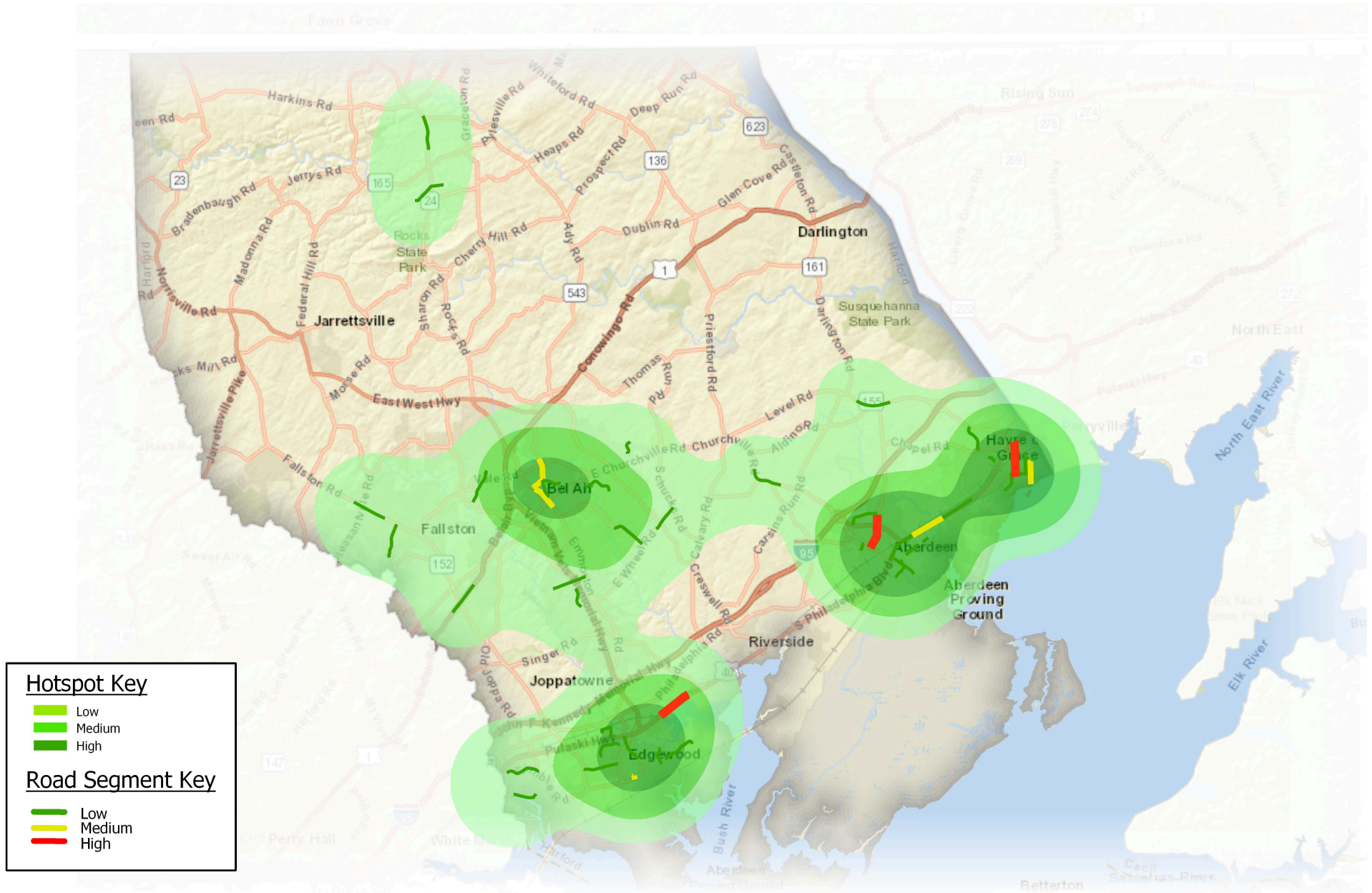
Hotspot Key

- Low
- Medium
- High

Road Segment Key

- Low
- Medium
- High

Harford County Bicycle Hotspots and Road Segments 2013 to 2015



SPECIAL VEHICLES AND VULNERABLE AGE GROUPS

Along with the emphasis areas, special vehicles and vulnerable age groups need to be addressed due to their potential for unique safety needs. Crashes involving these vehicles can pose an increased risk to occupants and other road users, sometimes reaching beyond safety issues to economic issues.

Commercial Motor Vehicles- The number of commercial motor vehicles (CMVs) has been increasing on our roadways. On average, across the state, CMVs are involved in 7 percent of motor vehicle crashes and account for 11 percent of fatal crashes. Strategies in the SHSP include partnering with the Federal Motor Carrier Safety Administration (FMCSA) to help promote efforts to improve CMV safety from a driver and vehicle perspective; educating road users and motor carriers on CMV regulations and visibility issues; and initiating appropriate infrastructure countermeasures with CMVs in mind.



The Harford County Sheriff's Office (HCSO) recognized the need for increased CMV enforcement on our roadways and, as a result, the agency currently has seven members certified as CMV Inspectors. The certification is through the FMCSA and is recognized throughout the country. This allows the inspectors to conduct driver and vehicle inspections, recognizing safety violations that could remove the driver or vehicle from our roadways. Inspectors work with MSP Inspectors and MDTA Inspectors routinely on initiatives throughout the county to promote CMV safety.

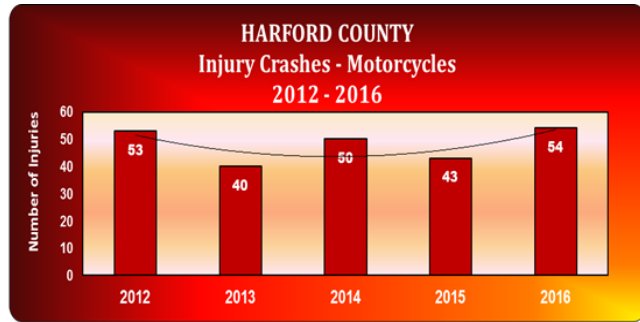
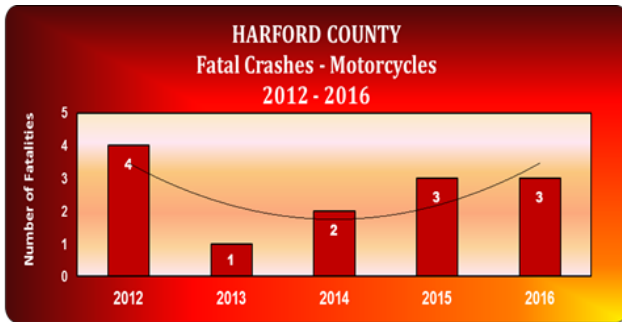
School Buses and Bus Stops- Though school bus crashes are relatively rare compared to other vehicle involvement, when a school bus crash occurs it has the potential for harm to children. NHTSA reports that most of the children killed in crashes involving school buses are hit in a zone within 10 feet of the bus, either by the bus itself, or a passing vehicle. Strategies include educating roadway users and children about school bus laws and regulations of stop sign/signal/arm violations.



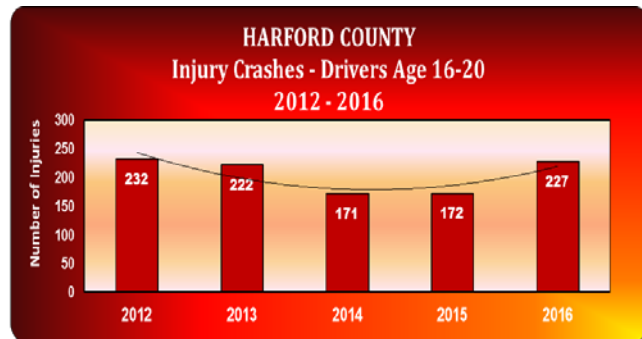
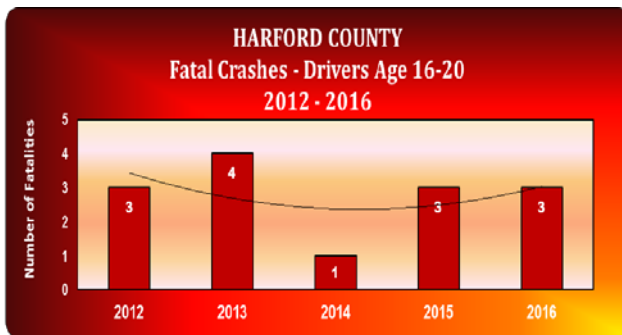
To combat school bus violations, the HCSO has a School Bus Safety Program in place. A partnership between HCSO, MSP and the Harford County Public Schools Transportation Division allows for the free flow of information pertaining to violations. Enforcement is targeted in areas identified as "hot spots" and buses with frequent violations are routinely followed by law enforcement to observe for violations.

Transit Buses and Bus Stops- Transit buses and bus stops have unique safety needs. As the transit system grows over time and ridership increases, Harford County can expect additional conflicts between vehicles, transit buses, and pedestrians. Due to the number of occupants riding a bus, the potential for multiple harmful outcomes should be considered when improving safety for the road users.

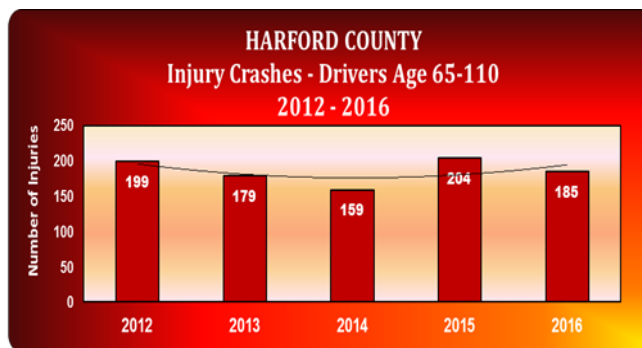
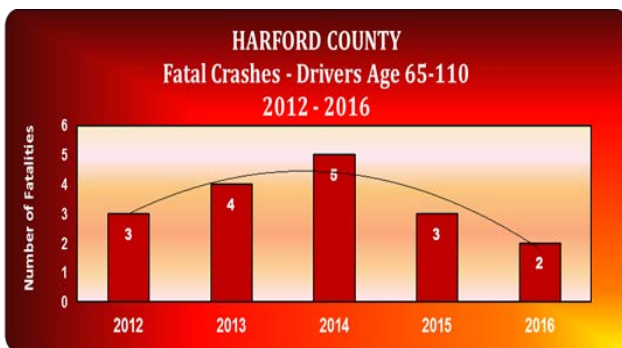
Motorcycles- An average of 3 fatalities, 48 injuries and 57 total crashes involving motorcycles occurred on Harford County roadways. Common factors in motorcycle crashes include impaired operators, lack of helmet use, and aggressive driving. Common contributing factors for drivers of other vehicles involved in crashes with motorcycles are failure to share the road and failure to yield. Strategies include expanded public information, education, and training programs for motorcyclists and other road users.



16-20 Year Old Age Group- An average of 3 fatalities, 205 injuries, and 558 total crashes on Harford County roadways involve this age group. This age group is the most inexperienced of our drivers, willing to take chances and not think about the consequences. Education is key for this group, followed up with enforcement. The National Safety Councils "Alive at 25" program has been brought to Harford County and will be part of the education process. This program can be used as a court ordered driver improvement program or it can be used voluntarily.



65 and Older Age Group- An average of 3 fatalities, 185 injuries, and 455 total crashes on Harford County roadways involve this age group. Strategies include education, public awareness, enforcement, and a partnership with the MVA. Training officers on older drivers and the use of e-referrals is a key component.



STSP IMPLEMENTATION

Implementation of the 2018 STSP will involve the collaborative work of professionals representing transportation planning, engineering and operations, public outreach and education, legislation and law enforcement, emergency medical services, and members of the community. Each stakeholder is an integral part in planning, implementing, and evaluating the STSP, ensuring that Harford County is doing its part in reducing the number and severity of traffic crashes.

The HCTSAB has been designated by the Harford County Council as the driving force for traffic safety in Harford County. The HCTSAB will continue to meet bi-monthly, with strategy reviews being conducted quarterly. Action steps will be identified and will be updated as needed. The HCTSAB will identify the key steps, schedule, and responsible organization to move each strategy forward. Those agencies that receive grant funding will implement programs to support the STSP.

STSP EVALUATION AND UPDATE CYCLE

The HCTSAB will evaluate the STSP on a regular and recurring basis, ensuring the accuracy of the data and prioritizing proposed strategies. The most important measure will be the reduction of fatalities on Harford County roadways.

- **Output Measures:** Emphasis area strategy implementation
- **Outcome Measures:** Emphasis area performance objectives



Results from the HCTSAB evaluations will be used to modify strategies if needed and identify action steps to implement the modification.

UPDATE SCHEDULE

The Harford County Strategic Traffic Safety Plan will cover the period from January 1, 2016 through December 31, 2020. Work on the next version of the STSP, analyzing the time frame 2021-2025, will commence in late 2019 and will be completed by October 2020.



HARFORD COUNTY

STRATEGIC TRAFFIC SAFETY PLAN

2018

